CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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COUNTRY East Germany/USSR

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SUBJECT [redacted] Chemical Industry in East Germany and Its Use to the USSR Chemical Industry

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THIS IS UNEVALUATED INFORMATION

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[redacted]

[redacted] Leuna made hydrazine by the Raschig method of oxidizing ammonia with sodium hypochloride (NaOCl) in the presence of glue.

$NH_3 + NaOCl \rightarrow NaOH + NH_2Cl$

$NH_2Cl + NH_3 + NaOH \rightarrow NH_2 - NH_2 + NaCl + H_2O$

There is also an undesirable side reaction which is

$2\ NH_2Cl + NaOCl + 2NaOH \rightarrow N_2 + 3NaCl + 3H_2O.$

This reaction is undesirable because it uses up the NH_2Cl which would otherwise be converted to hydrazine. The glue minimizes this reaction.

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2. [redacted]

The calcium peroxide is obtained by treating the liquid oxidation product of propane with calcium hydroxide $Ca(OH)_2 + H_2O \Rightarrow CaO_2.8H_2O$. This calcium peroxide hydrate precipitates from the solution and is then treated with an acid and the hydrogen peroxide liberated. Thus the calcium peroxide is obtained by the method of purifying and collecting the small amounts of hydrogen peroxide obtained by oxidizing propane.

3. [redacted]

[redacted] ASINGER did give all details of the cobalt acetate catalyst and the production of amines from acetone to the Soviets.

4. [redacted]

The Soviets showed interest only in specific questions relating to catalysts and in particular showed interest in the brown oxide catalyst. They requested that we write up reports on the preparation and use of catalysts from time to time, but in no cases did they comment on these reports or show any interest in them whatever. This was rather discouraging to us, as we were unable to determine whether they were pleased, displeased, or indifferent to the reports. [redacted] this indifference toward the reports submitted was due to general Soviet slovenliness. It took a long time to receive orders through channels from Moscow and an equally long time to send the results of the work requested by these orders back through channels to Moscow.

5. [redacted]

The equipment which was sent to the USSR from Leuna was first cleaned and painted before crating and shipment. It arrived at Lisichansk apparently in good condition, but was dumped from the cars and allowed to remain in the open for several years. [redacted] German technicians [redacted] saw the crates in disorder, lying in the open.

Apparently, as it was dumped from the railway cars, crates of the equipment were damaged and in some cases the condensing columns had been bent in several places. Most of the finer instruments, such as voltmeters, ammeters, etc., on this equipment had been removed by the Soviet workers. German PW's and interned German civilians from Upper Silesia doing labor at Lisichansk, who had seen this removal.

6.

It required two months to work out the design for a small urea pilot plant. Each of the German scientists present contributed as much as he could remember to this project. We had no reference books and no one man knew all the information, but by piecing the information together from all the scientists we were able to give a fair plan for the urea plant. The same piecemeal method was used in collecting information from all six men in the group for a memorandum for the manufacture of Kaurit Leim. This memorandum was only about two or three pages in length. an ammonia salt was used as a catalyst in the production of Kaurit Leim. 50X1-HUM

7.

The German scientists worked some six to eight months on two projects connected with the pilot plant for Fischer-Tropsch synthesis using the U.S. method. One project was for a synthetic pilot plant and the other project was for separating the Fischer-Tropsch products from the crude product. There were five German scientists on this problem--four chemists and one engineer--and it ran from about July to December 1950.

8.

prepare a report on catalysts in four parts:

a. Production of basic materials: Silica Gel and Active Alumina
b. Production of catalysts from basic materials
c. Properties of these catalysts
d. Applications of these catalysts

the first three of these but never began work on the last one, No interest was expressed by the Soviets in any of these reports, no Soviet scientist monitoring or supervising in any way on this work.

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